
F&eIT Series AC-DC Power Supply Unit

POW-AD25GY User's Manual

CONTEC CO.,LTD.

Congratulations on your recent purchase of a AC-DC Power Supply Unit.

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Handling Precautions

- This power supply is dedicated to the F&eIT. Do not use for the other devices.
- Do not use or store the equipment in a hot or cold place, or in a place that is subject to severe temperature changes. (Operating temperature range: 0 to 40°C)
- Do not use or store the equipment in a place subject to direct sunlight or near a heating device, such as a stove.
- Do not use or store the equipment in a dusty or humid place. (Operating humidity range: 10 to 90%RH, no condensation)
- As this product contains precision electronic components, do not use or store in environments subject to shock or vibration.
- Do not use or store the product near equipment generating a strong magnetic field or radio waves.
- If you notice any strange odor or overheating, please unplug the power cord immediately.
- In the event of an abnormal condition or malfunction, please consult the dealer from whom the equipment was purchased.
- To avoid electric shock, please do not touch the system with a wet hand.
- Do not modify the unit. CONTEC will bear no responsibility for any problems, etc., resulting from modifying this unit.
- Do not open the unit casing. CONTEC will disclaim any responsibility for equipment whose casing has been opened.

FCC PART 15 Class A Notice

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference at his own expense.

WARNING TO USER

Change or modifications not expressly approved the manufacturer can void the user's authority to operate this equipment.

Product Configuration

- System unit...1
- AC Power Supply input connector plug...1
- Manual...1
- DC Power Supply output connector plug...2

About the POW-AD25GY

POW-AD25GY is a power supply unit for providing DC power to the large F&eIT series configuration. It can be used world wide.

This AC-DC power supply unit is carrying out the standard equipment of the DIN rail attachment mechanism to the main part like other products of this series, and can install it simply and smartly.

A system can be easily built combining F&eIT series product.

Compliance Requirements

The low voltage directives require that devices operating from power supplies in the range 50 to 1000 VAC or 75 to 1500 VAC observe necessary safety precautions.

The following describes the main points to note so that installations using the POW-AD25GY can comply with the low voltage directives.

Although this information has been prepared to the best of our ability based on the requirements, standards, and other stipulations contained in the regulations obtained by CONTEC, we provide no guarantee that equipment manufactured based on this information will comply with the above directive. Ultimate responsibility for determining how to comply with the low voltage directive and how to confirm compliance is the responsibility of the equipment manufacturer.

POW-AD25GY is an open-type device (a device designed to be housed inside other equipment) and must always be mounted inside a control panel according to standard EN60950. To provide electrical shock protection for people such as operators who do not have the necessary level of electrical knowledge, the control panel must include the following precautionary measures (Installation category:2).

(1) Electric shock protection

- (a) Lock the control panel to ensure that it can only be opened by persons with sufficient knowledge and training on electrical equipment.
- (b) Incorporate a mechanism so that opening the control panel automatically isolates the power supply.

(2) Water and dust proofing

The control panel is dust- and water-proof. If dust-proofing or water-proofing is made inadequate, insulation may deteriorate increasing the risk of insulation failure. The insulation on the POW-AD25GY is designed to deal with pollution degree 2 and therefore the unit should only be used in environments with pollution degree 2 or better.

Pollution degree 1: Dry environment with no conductive dust or other contamination.

Pollution degree 2: Environment in which conductive dust or other contamination does not normally occur, but where conductive contamination may occur from time to time due to accumulation of dust or similar. Typically the environment in an IP54 equivalent control panel in a factory control room or factory floor.

Pollution degree 3: Environment in which conductive dust or other contamination does occur and where conduction may occur due to accumulation of dust or similar. Typically a factory floor environment.

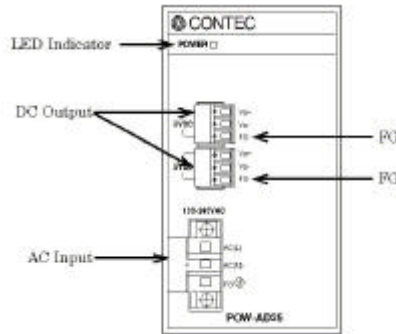
Pollution degree 4: Environment in which conductive contamination such as rain or snow is always present. An outdoor environment.

As described above, if a POW-AD25GY is housed in an IP54 equivalent control panel, contamination level 2 can be achieved.

(3) Installation Requirements

- (a) Build in this power supply according to standard EN60950 which is a built-in power supply.
- (b) Installation category: 2 (Pollution Degree 2)
- (c) The protection earth point is FG pin of 115-230VAC connector in front of the case. Ground this pin to the earth with the cable.

Nomenclature



Connector

Name	Function
DC input port	2-piece power input connector (detachable). A dedicated plug as a standard item. Screw-in type cable connection.
DC output port	2-piece power output connector (detachable). A dedicated plug as a standard item. Screw-in type cable connection

LED Indicator

Name	Function	Indication
Power LED	Power: green	ON: DC output on OFF: DC output off

System Reference

Specifications

Item		Specifications
Input	Voltage	85 to 264VAC (110 to 375VDC)
	Current	100VAC : 0.36A(Typ Io=100%) 230VAC : 0.26A(Typ Io=100%)
	Frequency	47 to 63Hz
	Rush current	100VAC : 5.0A(Typ Io=100%) 230VAC : 13.0A(Typ Io=100%)
Output	Rated voltage	5.0V ±5%
	Rated current	230VAC : 4.6A(Max.) 115VAC : 4.2A(Max)
	Static input fluctuations	±0.4%(Max.)
	Static load fluctuations	±1%(Max.) (10-90% Lload fluctuations)
	Ripple noise	100mVp-p(Typ.) (20MHz Bandwidth)
	Ambient temperature fluctuations	0.02%/°C
	warm-up time	140ms(Typ)(100VAC,Io=100%) 110ms(Typ)(230VAC,Io=100%)
	holding time	20ms(Typ)(115VAC,Io=100%) 100ms(Typ)(230VAC,Io=100%)
Auxiliary functions	Overcurrent protection	Operates at 130% (Min.) of nominal current; auto-reverting
Other functions	FG pin	An FG terminal is provided on the power I/O connectors
	service condition	0 to 40°C, 10 to 90%RH (No condensation)
	External dimensions (mm)	52.4 (W) x 64.7 (D) x 94.0 (H) (exclusive of any protrusions)
	Cooling method	Natural air cooling
	Service life	It is 2 years at the circumference temperature of 40°C. It is 5.58 years at the circumference temperature of 25°C. (Io=75%)
	Weight of the system unit	200g
	Installation method	One-touch attachment to a 35mm DIN rail The mounting mechanism is provided on the system unit as a standard item.

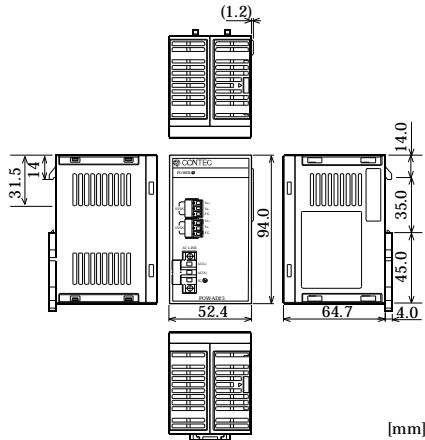
Installation Environment Requirements

Parameter		Requirement description
Ambient temperature		0 to 40°C
Storage temperature		-10 to 60°C
Ambient Humidity		10% to 90% (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None
Noise immunity	Line-noise	AC line/2kV, Signal line/1kV (IEC1000-4-4Level 3, EN61000-4-4Level 3)
	Static electricity resistance	Contact discharge/4kV (IEC1000-4-2Level 2, EN61000-4-2Level 2)
		Atmospheric discharge/8kV (IEC1000-4-2Level 3, EN61000-4-2Level 3)
Vibration resistance	Sweep resistance	10 to 57Hz/semi-amplitude 0.15mm, 57 to 150Hz/2.0G
		80minutes each in X, Y, and Z directions (JIS C0040-compliant, IEC68-2-6-compliant)
Impact resistance		15G, half-sine shock for 11ms in X, Y, and Z directions (JIS C004-compliant, IEC68-2-27-compliant)
Grounding		Class D grounding (previous class 3 grounding)
Installation location		Installing to the DIN rail (the control boards,etc.) as the power supply dedicated to the F&eIT.

I/O Connectors

Item		Description	
Input	Board connector	5.08mm pitch	12.0A rated current
	Plug	Laterally operable screw-in type (MSTB2.5/3-STF-5.08, made by PHOENIX CONTACT Corp.)	
	Compatible cable	AWG 24 to 12	12.0A rated current
Output	Board connector	3.5mm pitch	8.0A rated current
	Plug	Laterally operable screw-in type (MC1.5/3-ST-3.5, made by PHOENIX CONTACT Corp.)	
	Compatible cable	AWG 28 to 16	8.0A rated current

External Dimensions

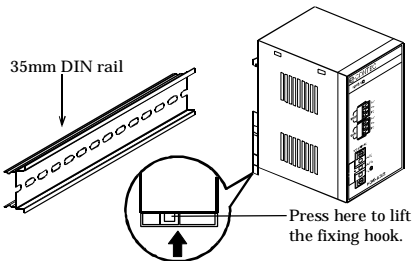


Installation Method

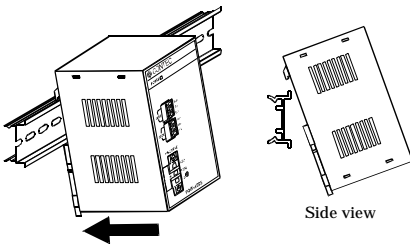
Mounting the AC-DC Power Supply Unit on the DIN Rail

Mounting procedure

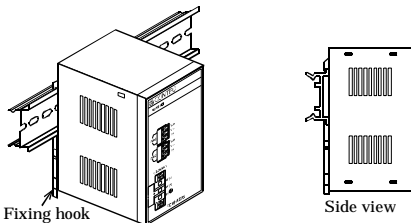
- (1) Pushing the fixing hook with a flat-blade screwdriver renders it into a lock-enabled condition.



- (2) Hook the AC-DC power supply unit from the upper part of the DIN rail, and press the lower part of the unit against the DIN rail.

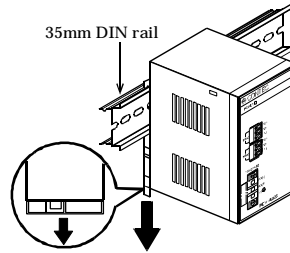


- (3) The fixing hook is automatically locked, and the unit can be mounted in one-touch.

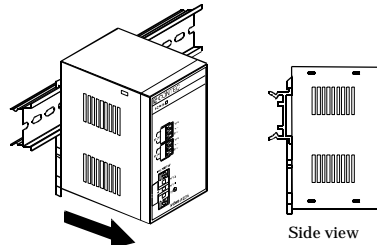


Removal procedure

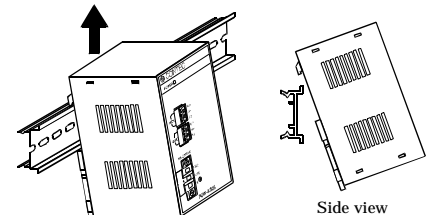
- (1) Lower the fixing hook for the unit to unlock it.



- (2) With the fixing hook unlocked, pull the lower part of the unit toward you.



- (3) By lifting the unit, you can easily remove it from the DIN rail.



Connection Method

Connecting the I/O cables to the AC-DC power supply unit

Cables are connected to the AC-DC power supply unit by means of detachable connectors that are provided as standard items.

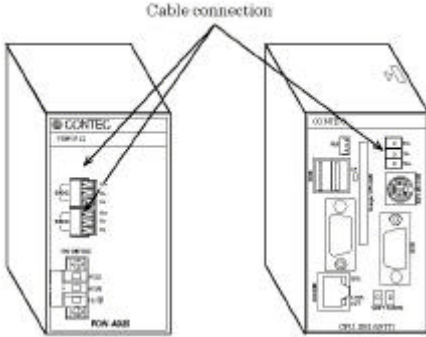
(Input unit: compatible cables: AWG 24 to 12)

(Output unit: compatible cables: AWG 28 to 16)

The AC-DC power supply unit and F&eIT Series product can be cable-connected using the detachable connector that is provided on either the unit face or the modulet face (compatible cables: AWG 28 to 16).

Note!

Because the AC-DC power supply unit generates heat, a minimum spacing of 2.0 cm should be provided between the POW-AD25GY and any adjoining units, and care should be taken so that the ventilation holes are not covered.



List of Options

FAN Unit

- FAN-FIT FAN Unit For 52.4mm-width unit or module

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